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January 13, 2000

Magalie Roman Salas
Office of the Secretary
FCC
445 Twelfth Street, SW
Room TW-A325
WDC 20554

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JAN 14 2000

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Dear Ms. Salas:

Please accept these comments from Self Help for Hard of Hearing People in response to the Notice of Inquiry in the matter of implementation of Section 255 of the Communications Act of 1934 as enacted by the Telecommunications Act of 1996.

There were server problems that made it impossible to file electronically on January 13, 2000. I spent several hours attempting to file electronically using three computers and two web browsers.

As instructed, I am filing diskette copies with Al McCloud of the FCC and with ITS. I am also filing (with you) 4 paper copies along with the paper original.

Please feel welcome to contact me if you have questions.

Sincerely,

David Baquis, Director
SHHH National Center on Assistive Technology



20th
Anniversary

CELEBRATING TWENTY YEARS OF SELF HELP

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**Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

January 13, 2000

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In the Matter of)
)
Implementation of Sections 255)
of the Communications Act of 1934)
as Enacted by the Telecommunications)
Act of 1996)
)
Access to Telecommunications Service,)
Telecommunications Equipment and)
Customer Premises Equipment by Persons)
With Disabilities)

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY
WT Docket No. 96-198

**COMMENTS OF
SELF HELP FOR HARD OF HEARING PEOPLE, INC. (SHHH)**

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January 13, 2000

SHHH Comments – Section 255 NOI

Self Help for Hard of Hearing People, Inc. (SHHH) hereby submits comments in response to the Federal Communications Commission's Notice of Inquiry on Section 255 of the Telecommunications Act released September 29, 1999.

SHHH is a national educational organization representing people who are hard of hearing. Its members are people of all ages and degrees of hearing loss. Through a National office, eight state associations and a network of 250 chapters and groups across the country, SHHH members consistently work towards increasing communication access to enable people who are hard of hearing to continue to function in mainstream society. Access to telecommunications is integral to being able to actively participate in today's world.

SHHH agrees with the FCC goal of ensuring the ability of all people to take full advantage of new technology so that people with disabilities are not left behind in the rapidly advancing area of telecommunications. Utilizing technology is one of the primary strategies for coping with hearing loss. Hard of hearing people use television captioning, TTYs and VCO phones, telephone amplifiers and other assistive devices to participate fully at home and work. It is essential that emergent equipment also be made accessible – specifically Internet (IP) telephony and computer-based equipment that replicates telecommunications functionality.

SHHH is pleased to see the voluntary efforts of the members of the Voice Over the Net (VON) Coalition to take disability access needs into consideration in the development of new products. However, in order to guarantee access to technology by people with disabilities, it will be necessary for the FCC to mandate some consumer accessibility requirements. Numerous IP telephony products currently on the market (for example, Net2Phone or DialPad – see www.dialpad.com) are not fully accessible, since they cannot be used with relay services at this time. This reflects a separate problem with TRSs not currently utilizing Internet access to relay Internet mediated phone calls..

INTERNET TELEPHONY

Although consumers have not yet fully realized the value of IP telephony, it is foreseeable that the number of users (with and without disabilities) will increase sharply. Benefits expected include: reduced cost on long distance calls; and the opportunity to receive and transmit voice, data and graphics simultaneously. Email has been a boon to people with hearing and speech disabilities because it puts them on an even playing field with the vast network of other computer users. Consumers also use Internet chatting and instant messaging services as a free, expressive and flexible alternative to TTY communication.

Before using the IP telephony network, consumers will need assurance that it is a seamless gateway. They will not want to lose any features that they currently receive on the public switched network (PSTN), such as clear voice communication, accurate transmission of TTY tones (including enhanced speed protocols), call signaling, transmission of touch tones without distortion and access to custom calling features.

People with hearing and speech disabilities, in particular, may wish to use IP telephony to make calls through the telecommunications relay service (TRS). Calls to the TRSs are free. What consumers need is for the TRSs to connect to the Internet to take advantage of the low rates on the Internet. For that to work and to provide functional equivalency, there would need to be confidence that TTY tones will be transmitted without an error rate higher than in the PSTN. From information shared by the VON, it appears that this issue is being addressed in network standards. It is important that ALL device manufacturers incorporate modems with full functionality, however. This is why it is important for the FCC to issue regulations requiring use of the v.18 standard, where readily achievable. There will also be the added benefit of compatibility with products in other countries.

In addition, hard of hearing people want to use voice carry over (VCO) both in direct (2-party) calls as well as during TRS (3-party) calls. The VON states that it believes IP VCO is possible. However, it has not been developed or tested yet. SHHH feels that it is a right of consumers to expect TRSs to support receiving and transmitting relay calls through IP networks. We also feel that TRS should be obligated to meet the same ADA accessibility guidelines (such as availability of VCO service) for IP network calls as they do for calls handled via the PSTN.

For the purpose of illustration of phone to phone IP Telephony with TRS, a VCO user would call the TRS and ask the communication assistant (CA) to make a call. The CA would call the receiving party and bridge the two calls as usual. The process would seem transparent from the consumer perspective. However, in actuality, the call would go from consumer phone to PSTN to gateway to IP network to gateway to PSTN to the TRS phone. The call would pass through the TRS as always and again go to PSTN to gateway to IP network to gateway to PSTN to the phone of the receiving party. The key to success in this illustration is the ability to “mix audio channels”, as the IP telephony industry put it, so that the voice of the hard of hearing consumer is effectively passed through the system to be heard by the called party.

The FCC will need to consider the reliability of the Internet, in the same way as we have examined the reliability of the PSTN. For example, the disruption in our lives when AOL has been down serves as a reminder of how serious this issue is. If an ISP should be out of service, emergency plans need to be considered to reroute or handle calls. Steps to strengthen broadband or other pathways of transmission need to be considered as well as necessary rules to make that happen.

IP telephone manufactures should understand fully their other obligations under Section 255 to make phones accessible for hard of hearing people. Those consumer requirements include hearing aid compatibility, amplification controls and audio jacks for connections to listening attachments.

COMPUTER BASED EQUIPMENT

Voice mail and automated voice response systems have become commonplace in the past five years. As the Commission so rightly stated, the inability to use telecommunications equipment and services can be life-threatening in emergency situations, can severely limit educational and employment opportunities, and can otherwise interfere with full participation in business, family, social and other activities.

Many people with hearing loss do not now have access to such enhanced services. Our hard of hearing members often tell us that they hang up when faced with voice mail and automated voice response systems. Because these systems are so commonplace, there are many important calls that hard of hearing people are unable to complete. Such systems often cannot be accessed by TTY relay services since there is generally insufficient time for the relay communication assistant to type the choices and receive a response from the individual using a TTY.

The FCC needs to mandate accessibility features in automatic voice response systems (AVRSs) installed by end users. These customers would be closed systems such as hospitals and universities. It is not enough for phone companies to make THEIR voice mail accessible. Consumers will encounter many other voice mail systems that are the responsibility of the facilities that purchased them and located in computers on the campuses of those corporations. We know that some efforts have been made to design TTY accessible AVRSs. For example, Lucent and DiRAD sell products that enable both public TTY users to access automated telephone systems and employees who are TTYs users to retrieve messages. However, most companies are unaware of this type of software. The Multi Media Telecommunications Association (MMTA) has been very helpful in bringing consumers and the industry together to discuss this issue, so their members can work toward marketing and designing accessible business phone systems.

Hearing aid users have great difficulty understanding voice messages or discriminating between numbers such as 2 and 3. The automated voice response systems go too fast, are not clear and do not allow for repeats, making them inaccessible for most people with hearing loss. Further, if such menu systems require quick responses, they may not be usable by people with other disabilities. These menus should be set up to allow someone to escape early on by dialing a standard number such as “0” to talk to a person. This would appear to be an easy solution but some form of regulation is needed for this to happen.

Given the broad objectives Congress sought to accomplish by its enactment of Section 255, we believe Congress intended it to apply to a broad range of services such as voice mail, automated voice response and electronic mail. Without appropriate regulations governing “enhanced services”, access goes one step forward and two steps backward as more barriers are created. Communication via technology, in whatever form, whether phone calls over the Internet or email received on a phone handset, must be considered early-on in accessibility design. Otherwise, a significant portion of the population (1 out of 10 people with hearing loss in the United States) will not be able to use those products and services effectively.

Another area of computer-based technology that is important for the FCC to emphasize is speech recognition. This is really what hard of hearing and deaf people want the MOST. Specifically, they would like to use it for 1-to-1 conversations as well as TRS calls. Ideally, it would be fast, accurate and require little if any speech pattern training or unnatural speaking requirements. People with hearing loss simply want everything that others say to them over the phone to automatically show up on a terminal as text.

SHHH supports and participates in the current research into TRSs using speech recognition internally as an alternative to keyboarding the data on the calls. However, the public would like to see a great deal more progress in speech recognition products. One SHHH member shared her vision that the day may come when a person's speech patterns are stored in the network for later access during speech recognition calls, not only in a computer that is based on a person's premises. Any effort to establish speech recognition research as a priority and to urge appropriate agencies to designate more research dollars for advancements in this area would be fitting with the consumer demand.